

## ABSTRACT

A measurement method and system configured to determine parameters of a structure during production, the system including: a stage configured to support the structure during measurements; a measuring unit coupled to the stage; and a processor coupled to the measuring unit. The measuring unit includes: an illumination system configured to direct incident light of substantially broad wavelengths band toward a surface of the structure during measurements; and a detection system coupled to the illumination system and configured to detect light propagating from the surface of the structure during measurements. The measuring unit is configured to generate one or more output signals in response to the detected light during measurements. The processor is configured to determine the parameters of the structure from the one or more output signals during measurements. The parameters include a critical dimension of the structure and a layer characteristic of the structure.